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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Kenneth Alan Pieroni

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EXAMINER

GARBER, CHARLES D

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/939,405	Applicant(s) PIERONI ET AL.	
	Examiner Charles D. Garber	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-18, 29 and 32-34 is/are pending in the application.
- 4a) Of the above claim(s) 11-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29 and 32-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Because of drawing discrepancies that were overlooked earlier a new final rejection with a new time period is provided.

Response to Arguments

Applicant's arguments filed 10/31/2005 have been fully considered but they are not persuasive.

Applicant argues on page 2 that the flow meter 17 is not used during actual testing. Examiner directs Applicant's attention to Westervelt's recitation "permit pressurized air from element 17 to be admitted to the workpiece...transmitter 47 will sense and amplify the pressure drop across element 17, this drop being proportion to the flow which in turn will vary with the amount of leakage in the workpiece." (column 4 line 65 to column 5 line 6).

Applicant also argues on page 2 that "at no time is the flow meter ... connected to provide a visual indication of the size of a leak in a system under test".

Examiner directs Applicant's attention to Westervelt's recitation "The output of amplifier 47 may, for example, vary between 3 and 15 psig. Depending on the rate of flow through element 17..." and "In addition to the red or green lamp signals, indicating the reject or accept mode, a flow indicator 62 (FIG. 4) may be provided with is connected to the output of amplifier 47" wherein "The flow rate can be read visually and also caused to activate accept or reject indicators"

Applicant also argues the system of Westervelt, particularly the electrical modules powered by 110 volts, are known to be unsafe in an explosive environment because of the potential for arcing.

Examiner requires Applicant to provide evidence of what is known in the art, particularly with respect to the arcing caused by devices such as Westervelt's. Furthermore, Westervelt operates by pressurizing the system under test so Examiner does not see how gas fumes in any dangerous concentration may be pulled into the system and contact the circuitry within the housing shown in figure 1. Contrary to Applicant's assertion about electrical dangers of leak test equipment Resler et al. in US Patent 4,088,987 disclose a leak detector operating with 110 voltage in close proximity to gasoline without any express problem of arcing and combustion (column 4 lines 53+).

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "moving indicator ball", "leak tolerance standard", "fuel vapor recovery system", "maximum acceptable leak of predetermined size" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

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is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Westervelet et al. (US Patent 3,872,712) in view of Mieczkowski et al. (US Patent 5,898,108), Arnaud et al. (US Patent 4,198,374) and Gross (US Patent 5,275,144).

Regarding claims 29 and 32, Westervelt discloses a dynamic air flow comparator system that may be used for testing workpieces for leakage.

Workpieces may include "transmission housings, power cylinders, parts carrying seals or any of a wide variety of other items" according to Westervelt (Background), but not expressly testing fuel vapor recovery systems.

Mieczkowski teaches using a flow measurement device to test an evaporative emission system (including a fuel vapor recovery charcoal canister) for both proper purge flow as well as the system's ability to maintain pressure per EPA requirement (abstract and column 1 lines 35-43).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to test a fuel vapor recovery system for its ability to maintain pressure (e.g. against leaks) because this is an EPA requirement.

Westervelt further discloses alternatively connecting the workpiece 50 and reject calibration leak 35 (leak tolerance standard) to a pressure source at air supply inlet 36 and to flow sensors 17 and 62 (column 2 lines 5-7, column 4 line 63 to column 5 line 6, column 5 lines 48-63). Specifically, Westervelt's recites "The output of amplifier 47 may, for example, vary between 3 and 15 psig. depending on the rate of flow through element 17..." and "In addition to the red or green lamp signals, indicating the reject or accept mode, a flow indicator 62 (FIG. 4) may be provided with is connected to the

output of amplifier 47” [wherein] “The flow rate can be read visually and also caused to activate accept or reject indicators”

Westervelt uses air (abstract) rather than an inert gas.

Mieczkowski teaches nitrogen is a suitable gas for pressuring a fuel vapor recovery system of a motor vehicle for leak testing (column 6 lines 60-61 and column 2 lines 14-18). Nitrogen is an inert gas.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to leak test using nitrogen, an inert gas, to pressurize a system under test as nitrogen is a “suitable” gas and will not react chemically with fuel vapors in the system being tested.

Westervelt further discloses flow sensor 62 is a visual flow indicator that may be used in conjunction with the automated test (using flow sensor 17) or independently if the user chooses to perform a manual test (column 5 lines 24-27).

Westervelt also discloses the parts under test may be sealed or having fixed orifices (Background) but not expressly closing a vapor recovery system under test. Mieczkowski only teaches closing the fuel tank and not expressly the vapor recovery canister.

Gross teaches the “invention checks the integrity of the evaporative emission control system [including a fuel tank and canister] by sealing the system from the atmosphere, applying a vacuum signal to the system and sensing the vacuum signal level at a predetermined point in the system. The system is sealed from the atmosphere by energizing the valve 46 thereby closing off the air input.” Gross explains

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"These evaporative emission control systems are generally comprised of a combination of hoses, pipes and containments, such as the vapor collection canister and the fuel tank, connected with defined openings to the environment. Defects in such a system will typically show as a leak resulting from, for example, disconnected hoses or a loose or missing gas cap. Defects may further take the form of a restriction such as a pinched line."

It would have been obvious to one having ordinary skill in the art at the time the invention was made to close an entire vapor recovery system including the canister because defects may occur at various connections within the system.

Westervelt further discloses the calibration circuit is employed at the end of each test (either automatically or manually) and therefore precedes any subsequent test which anticipates "disconnecting the gas supply line and... gas flow meter from the leak tolerance standard and reconnecting the gas supply line and... gas flow meter to" a workpiece as in the instant invention. Sequencing of the valves 56 and 33 switches supply pressure from the workpiece to the calibrated leaks.

Comparison of the calibration and workpiece leak flow rates is performed either automatically with comparator system 48 or manually using visual flow gauge 62 as an alternative to the red and green lamp signals (column 5 lines 24-26).

The gauge 62 is depicted in idealized form and Westervelt does not reveal specifically what type of visual gauge is used.

Arnaud teaches a flow meter 36 may be "a glass tube and ball flow meter of the well known variety...which permits the operator to visually monitor the flow" (column 10 lines 3-7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made use a ball type flow valve as they are "well known" "which permits the operator to visually monitor the flow". Selecting a "well known" device for monitoring flow would allow it to be easily adapted for use in Westervelt's invention.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Westervelet et al. (US Patent 3,872,712) as modified by Mieczkowski et al. (US Patent 5,898,108), Arnaud et al. (US Patent 4,198,374) and Gross (US Patent 5,275,144) and applied to claim 29 above and further in view of Adams (US Patent 4,462,249).

The references lack the non-flammable gas is carbon dioxide.

Adams discloses a leak test device including cylinder 41 providing gas used to pressurize a tank during a leak test. Adams teaches the "gas cylinder preferably contains nitrogen it can also be any other inert gas such as carbon dioxide".

It would have been obvious to one having ordinary skill in the art at the time the invention was made to pressurize a system with either nitrogen or carbon dioxide as both are inert and therefore will not react harmfully with the system or its contents.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Westervelet et al. (US Patent 3,872,712) as modified by Mieczkowski et al. (US Patent 5,898,108), Arnaud et al. (US Patent 4,198,374) and Gross (US Patent 5,275,144) and applied to claim 29 above and further in view of Toback (US Patent 3,822,585).

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The references lack the gas supply including a check valve in the supply line.

Toback teaches check valve 50 in line 51 from air source at 54.

This is done typically to maintain pressure if the source is disconnected or to prevent contamination of the source from backflow.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to dispose a check valve in the gas supply line in order to prevent backflow and thereby hold pressure and prevent contamination of the source.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles D. Garber whose telephone number is (571) 272-2194. The examiner can normally be reached on 8:00 a.m. to 4:30 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Charles D. Garber
Primary Examiner
Art Unit 2856

cdg